

Find the slope and the y-intercept

1)  $3x + 8y = 5$   $y = mx + b$

$$\begin{array}{r} -3x \\ 8y = -3x + 5 \\ \hline y = -\frac{3}{8}x + \frac{5}{8} \\ m = -\frac{3}{8} \quad b = \frac{5}{8} \end{array}$$

2)  $-8x - 5y = 20$

$$\begin{array}{r} +8x \\ -5y = 8x + 20 \\ \hline y = -\frac{8}{5}x - 4 \\ m = -\frac{8}{5} \quad b = -4 \end{array}$$

3)  $4x + 7y = 21$

$$\begin{array}{r} -4x \\ 7y = -4x + 21 \\ \hline y = -\frac{4}{7}x + 3 \\ m = -\frac{4}{7} \quad b = 3 \end{array}$$

Sep 21-11:22 AM

Use the x and y-intercepts to graph  $3x + 6y = 24$ .  
(Make sure you show your work!)

$3x + 6y = 24$

x-int	y-int
$3x = 24$	$6y = 24$
$x = 8$	$y = 4$
$(8, 0)$	$(0, 4)$

Sep 21-11:34 AM

8) Find the equation in slope-intercept form of the line containing the points  $(3, -17)$  and  $(-4, 18)$ .

$$m = \frac{18 - (-17)}{-4 - 3} = \frac{35}{-7} = -5$$

$$y - 18 = -5(x + 4)$$

$$\begin{array}{r} y - 18 = -5x - 20 \\ +18 \quad +18 \\ \hline y = -5x - 2 \end{array}$$

Sep 21-11:35 AM

12) Determine whether the table below represents a linear relationship between x and y. If the relationship is linear, write the next ordered pair that would appear in the table.

x	2	4	6	7	
y	7	13	19	25	

Handwritten annotations show differences:  $+2$  for x,  $+6$  for y, and  $+1$  for x.

Sep 21-11:40 AM

9) Write an equation in slope-intercept form for the line with slope  $\frac{5}{6}$  and contains the point  $(-12, 8)$ .

$$y - 8 = \frac{5}{6}(x + 12)$$

$$\begin{array}{r} y - 8 = \frac{5}{6}x + 10 \\ +8 \quad +8 \\ \hline y = \frac{5}{6}x + 18 \end{array}$$

Sep 21-11:36 AM

1) Write the equation of a line that passes through the point  $(-6, 1)$  and is parallel to  $-4x + 3y = 12$ .

$-4x + 3y = 12$

$$\begin{array}{r} +4x \\ 3y = 4x + 12 \\ \hline y = \frac{4}{3}x + 4 \end{array}$$

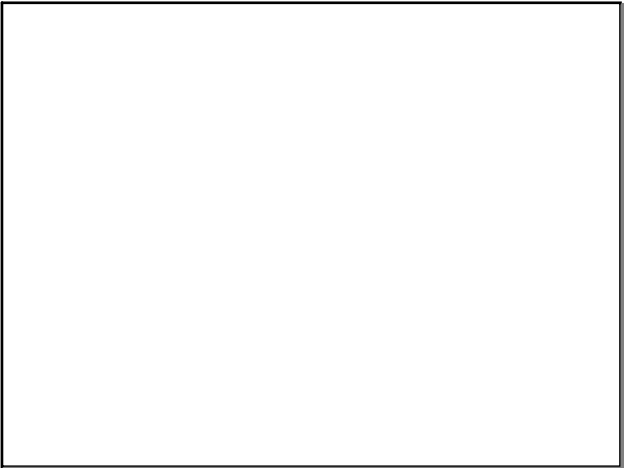
$m = \frac{4}{3}$

Point:  $(-6, 1)$

$$y - 1 = \frac{4}{3}(x + 6)$$

$$\begin{array}{r} y - 1 = \frac{4}{3}x + 8 \\ +1 \quad +1 \\ \hline y = \frac{4}{3}x + 9 \end{array}$$

Sep 21-11:11 AM



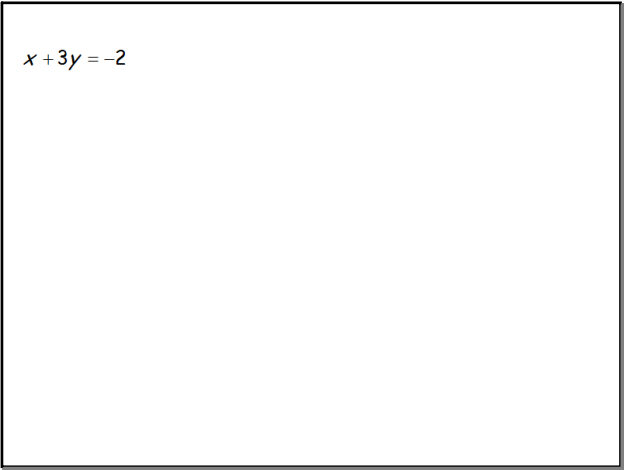
Sep 21-11:52 AM

1) Write the equation of a line that passes through the point  $(-8,1)$  and is perpendicular to  $-4x + 3y = 12$ .

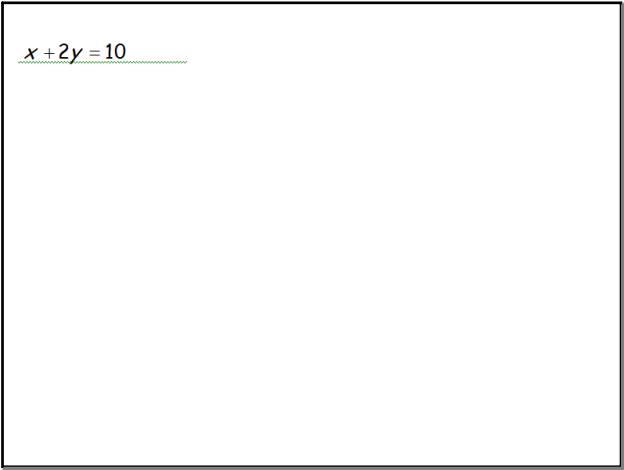
$-4x + 3y = 12$   
 $+4x \quad +4x$   
 $\frac{3y}{3} = \frac{4x}{3} + \frac{12}{3}$   
 $y = \frac{4}{3}x + 4$

$m = \frac{3}{4}$   
 $y - 1 = \frac{3}{4}(x + 8)$   
 $y - 1 = \frac{3}{4}x + 6$   
 $y = \frac{3}{4}x + 7$

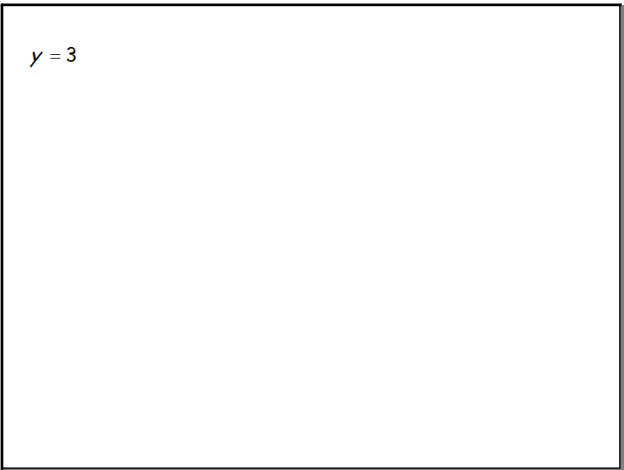
Sep 21-11:13 AM



Sep 21-11:14 AM



Sep 21-11:14 AM

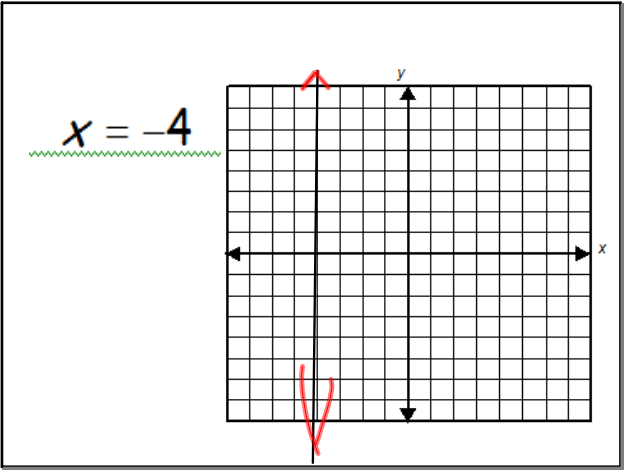


Sep 21-11:14 AM

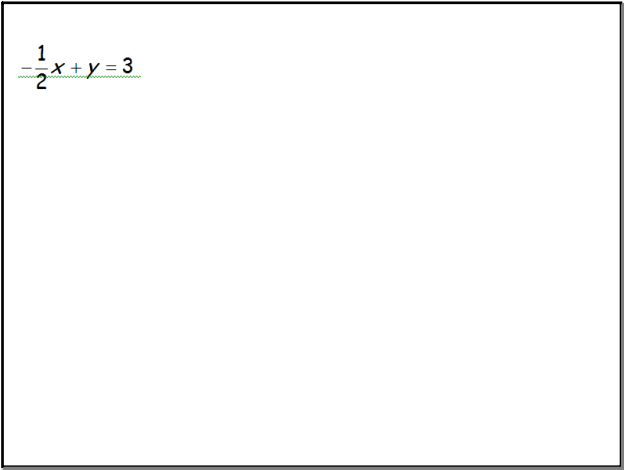
$4x - 2y = 6$   
 $-4x \quad -4x$   
 $\frac{-2y}{-2} = \frac{-4x + 6}{-2} \quad \frac{-2}{-2} \quad \frac{6}{-2}$   
 $y = 2x - 3$   
 $m = 2$   
 $b = -3$

$y = mx + b$

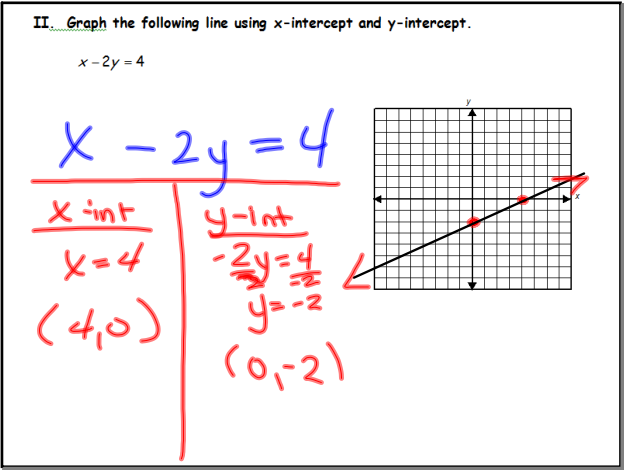
Sep 21-11:14 AM



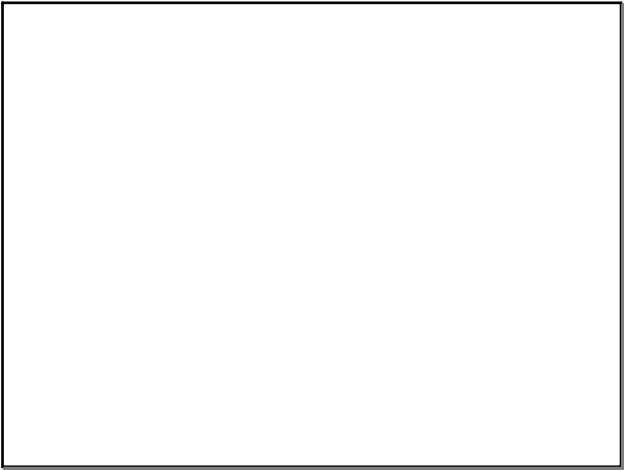
Sep 21-11:14 AM



Sep 21-11:14 AM



Sep 21-11:15 AM



Sep 21-12:01 PM